

IN THE CLAIMS:

Claims 13, 17, 20 and 25 have been amended herein. Please note that all claims currently pending and under consideration in the referenced application are shown below. Please enter these claims as amended. This listing of claims will replace all prior versions and listings of claims in the application.

Listing of Claims:

1-12. (Canceled)

13. (Currently amended) A method of making an FED having a central active display area and a surrounding peripheral area, comprising:

making a cathode assembly including a structure in the peripheral area thereof covered by at least one layer of material comprising part of the cathode assembly;
applying an etchant locally to uncover a uncover the structure in the peripheral area of the cathode assembly; by etching through the at least one layer of material including moving an etchant dispenser or the cathode assembly relative to one another during the applying and applying the etchant within without the use of lithographic techniques such that the etchant is disposed only less than 200 microns laterally away from of the structure;
making an anode assembly, and
assembling said cathode and anode assemblies.

14. (Previously presented) The method of claim 13, wherein the structure comprises an alignment mark.

15. (Previously presented) The method of claim 13, wherein the structure comprises a bond pad.

16. (Previously presented) The method of claim 13, wherein the step of locally applying an etchant comprises spraying a wet etchant on the structure without spraying the etchant elsewhere.

17. (Currently amended) A method of making an FED having a central active display area and a surrounding peripheral region, comprising:

making a cathode assembly including a structure in the peripheral area thereof covered by at least one layer of material comprising part of the cathode assembly,
making an anode assembly,
locally applying an etchant to uncover a uncover the structure in the peripheral region of the anode assembly, by etching through the at least one layer of material including moving an etchant dispenser or the anode assembly relative to one another during the applying and applying the etchant within without the use of lithographic techniques such that the etchant is disposed only less than 200 microns off away laterally from the structure; and
assembling said cathode and anode assemblies.

18. (Previously presented) The method of claim 17, wherein the structure comprises an alignment mark.

19. (Previously presented) The method of claim 17, wherein the step of locally applying an etchant comprises spraying a wet etchant on the structure while limiting spraying of the etchant elsewhere.

20. (Currently amended) A method of forming a cathode assembly of an FED, comprising:

providing a substrate having a central area and a peripheral area;

forming alignment marks on the peripheral area of the substrate;

forming an emitter electrode structure on the central area of the substrate;

forming a plurality of micropoints in groups on the emitter electrode structure;

depositing an insulating layer over the substrate, emitter electrode structure, and plurality of micropoints;

depositing a conductive layer over the insulating layer;

locally applying etchant on the alignment marks to clear the alignment marks of conductive and insulating material thereon, including moving an etchant dispenser or the substrate relative to one another during the applying and applying the etchant within-without the use of lithographic techniques such that the etchant is disposed only less than 200 microns off away laterally from the alignment marks; and

selectively etching openings through the conductive and insulating layers to expose the micropoints, with walls defining the openings being spaced away from the micropoints.

21. (Previously presented) The method of claim 20, wherein selectively etching openings through the conductive and insulating layers comprises applying a layer of photoresist on said conductive layer, imaging said photoresist to define a pattern for said openings, developing the photoresist, and etching the pattern for the openings.

22. (Previously presented) The method of claim 21, further comprising the step of polishing the conductive layer after the step of depositing a conductive layer over the insulating layer.

23. (Previously presented) The method of claim 22, wherein the step of polishing comprises chemical-mechanical planarization.

24. (Previously presented) The method of claim 21, wherein the step of locally applying an etchant comprises spraying a wet etchant on the alignment marks without spraying the etchant elsewhere.

25. (Currently amended) A method of forming a cathode assembly of a field emission device, comprising:

providing a substrate;

making alignment marks in a peripheral region of the substrate;

forming an emitter electrode structure on a central region of the substrate, said central region

being substantially surrounded by the peripheral region;

forming a plurality of micropoints on the emitter electrode structure;

depositing an insulating layer over the substrate, emitter electrode structure, and plurality of micropoints;

depositing a first conductive layer over the insulating layer;

polishing the conductive layer;

selectively applying localized etchant on the alignment marks while inhibiting application of the etchant on the central region to clear the marks of material deposited thereon, including moving an etchant dispenser or the substrate relative to one another during the applying and applying the etchant within-without the use of lithographic techniques such that the etchant is disposed only less than 200 microns away laterally from the alignment marks; and

etching openings through the conductive and insulating layers to expose the micropoints, with walls defining the openings being spaced away from the micropoints.

26. (Previously presented) The method of claim 25, wherein the step of selectively applying a localized etchant comprises spraying a wet etchant on the alignment marks.

27-32. (Canceled)

33. (Previously presented) The method of claim 13, wherein moving comprises moving the etchant dispenser relative to the cathode assembly.

34. (Previously presented) The method of claim 13, wherein moving comprises moving the cathode assembly relative to the etchant dispenser.

35. (Previously presented) The method of claim 15, further comprising applying the etchant on the bond pads in elongated spray zones.

36. (Previously presented) The method of claim 35, further comprising spraying the etchant from a nozzle in the etchant dispenser while moving the nozzle linearly over the cathode assembly.

37. (Previously presented) The method of claim 17, wherein moving comprises moving the etchant dispenser relative to the anode assembly.

38. (Previously presented) The method of claim 17, wherein moving comprises moving the anode assembly relative to the etchant dispenser.

39. (Previously presented) The method of claim 17, wherein the structure comprises at least one bond pad.

40. (Previously presented) The method of claim 39, further comprising applying the etchant on the at least one bond pad in elongated spray zones.

41. (Previously presented) The method of claim 40, further comprising spraying the etchant from a nozzle in the etchant dispenser while moving the nozzle linearly over the cathode assembly.

42. (Previously presented) The method of claim 20, wherein moving comprises moving the etchant dispenser relative to the substrate.

43. (Previously presented) The method of claim 20, wherein moving comprises moving the substrate relative to the etchant dispenser.

44. (Previously presented) The method of claim 25, wherein moving comprises moving the etchant dispenser relative to the substrate.

45. (Previously presented) The method of claim 25, wherein moving comprises moving the substrate relative to the etchant dispenser.